

WHAT IS CLAIMED IS:

1. A scope processing method for extracting one or more instances from an instance tree which has been stored in a database, wherein:

the instances are extracted from the instance tree by use of a scope descriptor object which moves in an area of the instance tree that is designated by a starting position and a scope condition.

2. A scope processing method as claimed in claim 1, wherein the scope descriptor object which moves in the area designated by the starting position and the scope condition moves according to the following steps:

a movement starting step in which the scope descriptor object starts the movement in the instance tree from the starting position;

a downward movement step in which the scope descriptor object at an instance of the instance tree generally goes down in the instance tree to an instance a step lower than the current instance if possible;

a sideways movement step which is executed when the scope descriptor object could not go down in the downward movement step or when the scope descriptor object went up in the instance tree, in which the scope descriptor object goes sideways in the instance tree to an instance next to the current instance if possible;

an upward movement step which is executed when the scope descriptor object could not go sideways in the sideways movement step, in which the scope descriptor object goes up in the instance tree to an instance a step higher than the current instance if possible; and

a movement ending step in which the scope descriptor object ends the movement in the instance tree when the scope descriptor object returned to the starting position.

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TOTAL 7229886

3. A scope processing method as claimed in claim 2, wherein when the scope descriptor object moves in the area designated by the starting position and the scope condition,

the scope descriptor object stops the movement in the instance
5 tree when the scope descriptor object could not go down in the downward movement step, when the scope descriptor object could not go sideways in the sideways movement step and went up in the upward movement step, and when the scope descriptor object returned to the starting position, and

10 the scope descriptor object which stopped the movement in the instance tree judges whether or not the current position is within the area designated by the starting position and the scope condition, extracts the instance of the current position if the current position is within the designated area, and restarts the movement in the instance tree from the
15 current position if the scope descriptor object has not returned to the starting position.

4. A scope processing method as claimed in claim 3, wherein when the scope descriptor object extracts the instance of the current position, the instance is extracted if the instance satisfies a filtering condition.

5. A scope processing method as claimed in claim 3, wherein:

the scope descriptor object includes a stack area having areas corresponding to each relative depth with respect to the starting position, and

5 when the scope descriptor object went down in the downward movement step, information concerning an instance of the position after movement is stored in an area of the stack area corresponding to the relative depth of the position after movement, and

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when the scope descriptor object went sideways in the sideways movement step, information concerning an instance of the position after movement is stored in an area of the stack area corresponding to the relative depth of the current position, and

when the scope descriptor object went up in the upward movement step, information concerning an instance of the position before movement is deleted from an area of the stack area corresponding to the relative depth of the position before movement, and

when the scope descriptor object extracts an instance of the current position, the scope descriptor object extracts the information concerning the instance from the area of the stack area corresponding to the relative depth of the current position.

6. A scope processing method as claimed in claim 5, wherein the information concerning the instance is information indicating the address of the instance which has been stored in a database such as an MIB (Management Information Base).

7. A scope processing method as claimed in claim 1, wherein the instance is a set of information concerning a device of a management target device.

8. A scope processing method as claimed in claim 7, wherein the management target device is a management target device in an OSI (Open Systems Interconnection) network management system.

9. A scope processing device of a management target device for extracting one or more instances from an instance tree which has been stored in a database, wherein:

the scope processing device extracts the instances from the

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10. A scope processing device as claimed in claim 9, wherein the scope descriptor object which moves in the area designated by the starting position and the scope condition moves according to the following steps:

a downward movement step in which the scope descriptor object at an instance of the instance tree generally goes down in the instance tree to an instance a step lower than the current instance if possible;

15 an upward movement step which is executed when the scope
 descriptor object could not go sideways in the sideways movement step,
 in which the scope descriptor object goes up in the instance tree to an
 instance a step higher than the current instance if possible; and

11. A scope processing device as claimed in claim 10, wherein the scope descriptor object moves in the area designated by the target position and the scope condition.

the scope descriptor object stops the movement in the instance

when the scope descriptor object went up in the upward movement step, information concerning an instance of the position before movement is deleted from an area of the stack area corresponding to the relative depth of the position before movement, and

when the scope descriptor object extracts an instance of the current position, the scope descriptor object extracts the information concerning the instance from the area of the stack area corresponding to the relative depth of the current position.

14. A scope processing device as claimed in claim 13, wherein the information concerning the instance is information indicating the address of the instance which has been stored in a database such as an MIB (Management Information Base).

15. A scope processing device as claimed in claim 9, wherein the instance is a set of information concerning a device of the management target device.

16. A scope processing device as claimed in claim 15, wherein the management target device is a management target device in an OSI (Open Systems Interconnection) network management system.

17. A machine-readable record medium storing a program for instructing a computer etc. to execute a scope processing for extracting one or more instances from an instance tree which has been stored in a database, wherein:

the instances are extracted from the instance tree by use of a scope descriptor object which moves in an area of the instance tree that is designated by a starting position and a scope condition.

18. A machine-readable record medium as claimed in claim 17, wherein the scope descriptor object which moves in the area designated by the starting position and the scope condition moves according to the following steps:

5 a movement starting step in which the scope descriptor object starts the movement in the instance tree from the starting position;

 a downward movement step in which the scope descriptor object at an instance of the instance tree generally goes down in the instance tree to an instance a step lower than the current instance if possible;

10 a sideways movement step which is executed when the scope descriptor object could not go down in the downward movement step or when the scope descriptor object went up in the instance tree, in which the scope descriptor object goes sideways in the instance tree to an instance next to the current instance if possible;

15 an upward movement step which is executed when the scope descriptor object could not go sideways in the sideways movement step, in which the scope descriptor object goes up in the instance tree to an instance a step higher than the current instance if possible; and

20 a movement ending step in which the scope descriptor object ends the movement in the instance tree when the scope descriptor object returned to the starting position.

19. A machine-readable record medium as claimed in claim 18, wherein when the scope descriptor object moves in the area designated by the starting position and the scope condition,

5 the scope descriptor object stops the movement in the instance tree when the scope descriptor object could not go down in the downward movement step, when the scope descriptor object could not go sideways in the sideways movement step and went up in the upward movement step, and when the scope descriptor object returned to the starting

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position, and

- 10 the scope descriptor object which stopped the movement in the instance tree judges whether or not the current position is within the area designated by the starting position and the scope condition, extracts the instance of the current position if the current position is within the designated area, and restarts the movement in the instance tree from the
- 15 current position if the scope descriptor object has not returned to the starting position.

20. A machine-readable record medium as claimed in claim 19, wherein when the scope descriptor object extracts the instance of the current position, the instance is extracted if the instance satisfies a filtering condition.

21. A machine-readable record medium as claimed in claim 19, wherein:

- the scope descriptor object includes a stack area having areas corresponding to each relative depth with respect to the starting position,
- 5 and

when the scope descriptor object went down in the downward movement step, information concerning an instance of the position after movement is stored in an area of the stack area corresponding to the relative depth of the position after movement, and

- 10 when the scope descriptor object went sideways in the sideways movement step, information concerning an instance of the position after movement is stored in an area of the stack area corresponding to the relative depth of the current position, and

- when the scope descriptor object went up in the upward
- 15 movement step, information concerning an instance of the position before movement is deleted from an area of the stack area corresponding to the

relative depth of the position before movement, and

when the scope descriptor object extracts an instance of the current position, the scope descriptor object extracts the information
20 concerning the instance from the area of the stack area corresponding to the relative depth of the current position.

22. A machine-readable record medium as claimed in claim 21, wherein the information concerning the instance is information indicating the address of the instance which has been stored in a database such as an MIB (Management Information Base).

23. A machine-readable record medium as claimed in claim 17, wherein the instance is a set of information concerning a device of a management target device.

24. A machine-readable record medium as claimed in claim 23, wherein the management target device is a management target device in an OSI (Open Systems Interconnection) network management system.

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